REMARKS

The applicants appreciate the Examiner's thorough examination of the application and request reexamination and reconsideration of the application in view of the following remarks. The applicant notes that no new amendments to the claims have been made, and that the Amendments to the Claims section herein is included only for reference to the present status of the pending claims.

The applicant acknowledges and appreciates the Examiner's allowance of claims 1-10.

The Examiner rejects claims 11-14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 4,787,251 to *Kolodjski*, in view of U.S. Pat. No. 4,722,611 to *Hultgren*. The Examiner states that *Kolodjski* discloses an air flow sensor and a method of determining heat transfer rate comprising a temperature dependent resistor (6,7); means for applying a voltage to the temperature dependent resistor device until it reaches a first temperature, including a first circuit (Fig. 5); and means for determining when the temperature dependent resistor device then cools to a second temperature, including a second circuit (Fig. 5).

However, in contrast to the applicant's invention of claim 11, *Kolodjski* does not teach means for applying a voltage to the temperature dependent resistor device until it reaches a first temperature, including a first switch connected between a voltage source and a first circuit, and means for determining when the temperature dependent resistor device cools to a second, lower temperature including a second switch connected between a voltage source and a second circuit.

Kolodjski teaches that two independent and separate sensors 6 and 7 are upstream and downstream of one another respectively. One sensor is heated. As a result of fluid flow over the sensors, a thermal wake or heated portion of fluid will be created by the heated sensor. If the

"non-heated" sensor is downstream, it will be heated by the thermal wake. If the "non-heated" sensor is upstream, it will not be heated by the thermal wake. *Kolodjski* further teaches that (1) a corresponding difference in electrical resistance between the two sensors can be sensed by measuring the shift in voltage drop across each of the two sensors, or (2) assuming that the sensors are kept at constant temperature, a different amount of electrical energy will be required to maintain each sensor at the same constant temperature. See *Kolodjski* column 4, lines 4-33. According to *Kolodjski*, the direction of fluid flow can be determined thereby. As stated by *Kolodjski* at column 5, lines 24-29:

> In the embodiment shown in Fig. 5, sensors 6 and 7 each form one separate arm of the two separate four arm Wheatstone bridge circuits, the output of each Wheatstone bridge being fed to a comparator 22, which is capable of determining the direction of flow.

Structurally, *Kolodjski* does not teach or suggest the applicants' claimed first and second switches. As illustrated by way of example in the applicants' specification at page 10, lines 4-14:

> [A]ir flow sensor 10, Fig. 1, includes some means for applying a voltage to thermistor 12 only until it reaches temperature T_H such as switch 15 interconnecting voltage source 14 and circuit 16 ...
>
> Air flow sensor 10 also includes means for determining when thermistor 12 cools to temperature T_L such as switch 32 connected between voltage source 34 and circuit 36.

The first switch is connected between a voltage source and a first circuit and is included in the applicants' claimed means for applying voltage to the temperature dependent resistor device until it reaches a first temperature. The second switch is connected between a voltage source and a second circuit and is included in the applicants' claimed means for determining when the temperature dependent resistor device then cools to a second, lower temperature.

In addition to not teaching first and second switches, *Kolodjski* does not teach or suggest

means for determining when the temperature dependent resistor device cools to a second, lower temperature. *Kolodjski* does not teach or suggest cooling down at all, or cooling down of a single temperature dependent resistor device. Instead, *Kolodjski* teaches comparing the output of two separate circuits each including one of the separate sensors to determine which circuit is unbalanced and thus which way the fluid is flowing. One sensor is heated; the other is not.

In summary, *Kolodjski* does not teach first and second switches, does not teach cooling down of a sensor, and does not teach an air flow sensor. Conversely, *Kolodjski* teaches two sensors, heating one, comparing outputs, and determining the direction of fluid flow.

Therefore, even in combination with the Examiner's secondary cited reference *Hultgren*, *Kolodjski* does not teach or suggest each and every element of the applicants' claim 11. Accordingly, independent claim 11 is in condition for allowance.

The applicants' independent claim 14 recites a method of determining the heat transfer rate of a temperature dependent resistor device, the method comprising heating the temperature dependent resistor device to a first temperature by applying a first voltage across the temperature dependent resistor device until it reaches a first resistance value, allowing the temperature dependent resistor device to cool to a second temperature by applying a second, lower voltage across the temperature dependent resistor device until it reaches a second resistance value, measuring the period of time it takes for the temperature dependent resistor device to cool to the second temperature including monitoring when the temperature dependent device reaches the first resistance value and timing the period it takes to reach the second resistance value, and calculating the rate of heat transfer of the temperature dependent resistor device based on the measured period of time.

Kolodjski does not teach or suggest heating the temperature dependent resistor device to a

first temperature by applying a first voltage across the temperature dependent resistor device until it reaches a first resistance value and allowing the temperature dependent resistor device to cool to a second temperature by applying a second, lower voltage across the temperature dependent resistor device until it reaches a second resistance value.

Instead, *Kolodjski* teaches heating one of two temperature dependent resistor devices until it reaches a resistance value, then determining the direction of fluid flow by electrical measurement of the change of relative resistance values of each sensing element (6 and 7 in *Kolodjski*) when they are compared with each other in a balanced bridge circuit". See, e.g., *Kolodjski* column 4, lines 34-38.

Accordingly, for the reasons stated, the cited references do not teach or suggest the elements of applicants' claim 14 and claim 14 is also in condition for allowance.

The Examiner also rejects claims 12 and 13 under 35 U.S.C. §103(a) as being unpatentable over *Kolodjski* in view of U.S. Patent No. 5,193,388 to *Kleinhans*. Claims 12 and 13 depend from independent claim 11 that includes the aforementioned elements that are novel and non-obvious over the cited references. Accordingly, claims 12 and 13 are also in condition for allowance for at least those reasons.

CONCLUSION

The applicants again acknowledge and appreciate the Examiner's determination that claims 1-10 are in condition for allowance.

Each of Examiner's rejections of claims 11-14 have been addressed or traversed. Accordingly, it is respectfully submitted that claims 11-14 are also in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts at (781) 890-5678.

Respectfully submitted,

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